

REMARKS

The above amendments are made in response to the Office action of October 08, 2008. The Examiner's reconsideration is respectfully requested in view of the above amendment and the following remarks.

Claims 1-15 are pending in the present application. Claims 11-15 have been withdrawn leaving claims 1-10 for consideration. Claims 1-10 stand rejected. Claim 1 has been amended and claim 16 is new. Support for the amendments to claim 1 and 16 may be found at least in paragraphs [78, 79, 83, 84 and 88-90] and FIGS. 1, 5-7 and 9-11 of the application as filed. No new matter has been added.

Rejections Under 35 U.S.C. § 103

In order for an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). See MPEP 2143.

Claims 1-5, 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Fukuzawa et al. (U.S. Patent No. 6,249,328, hereinafter "Fukuzawa") in view of Jang et al. (U.S. Patent Publication No. 2003/0112388, hereinafter "Jang"). The Examiner states that Fukuzawa discloses all of the elements of the abovementioned claims except for a light reflective-transmissive unit disposed between the light supplying unit and the LCD panel assembly, which is allegedly disclosed in FIGS. 4 and 5 of Jang.

FIG. 4 of Fukuzawa discloses the timing used when writing to a liquid crystal picture frame, and the lower portion represents the timing used for the turning on of three cold-cathode fluorescent lamps that are employed as a backlight. First, red picture data

are written to the entire liquid crystal picture of the display device, and when the writing has been completed a red picture is acquired by turning on the red cold-cathode fluorescent lamp. Then, the red picture is sustained for a period of time until the red cold-cathode fluorescent lamp is turned off. Following this, the green picture data are written to the liquid crystal display picture frame, and after the writing has been completed, the green cold-cathode fluorescent lamp is turned on. Thereafter, the writing of blue, red and green data, and the illumination of those colors are repeated as a timed series. If the writing characteristics are poor or the transient illumination properties are weak, the length of the repetition cycle is extended, or the ON time period is shortened and a dark picture frame occurs. (Column 4, lines 8-26.) In fact, it can be clearly seen in FIG. 4 of Fukuzawa that the red, green and blue lamps are each only on for about 1/6 of a picture frame. Fukuzawa does not disclose or teach that red, green and blue light sources are successively on, and the light using an external reflective light is supplied to enhance a luminance at the same time, as taught in amended independent claim 1 of the present invention. Jang does not disclose independent light sources corresponding to red, green and blue colors.

Thus, neither Fukuzawa nor Jang, either alone or in combination, teach or suggest a light supplying unit having Independent light sources corresponding to red light, green light and blue light, respectively, the independent light sources supplying the red light during a time corresponding to a first one-third of a frame, the green light during a second one-third of the frame and the blue light during a third one-third of the frame, as recited in amended independent claim 1.

Thus, Applicants submit that neither Fukuzawa nor Jang, either alone or in combination, render obvious the subject matter of amended claim 1. Claims 2-10 and 16 depend from amended claim 1, and thus include the allowable elements of amended claim 1. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for amended independent claim 1.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's withdrawal of the rejection of claims 1-5, 7 and 8, and their subsequent allowance is respectfully requested.

Claims 1-3, 7, 8 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Moon (U.S. Patent No. 6,480,247, hereinafter "Moon") in view of Jang et al. (U.S. Patent Publication No. 2003/0112388, hereinafter "Jang"). The Examiner states that Moon discloses all of the elements of the abovementioned claims except for a light reflective-transmissive unit disposed between the light supplying unit and the LCD panel assembly, which is allegedly disclosed in FIGS. 4 and 5 of Jang.

First, it is respectfully submitted that Moon discloses independent light sources corresponding to three primary colors are replaced by a single light source, so that light utilization efficiency may be optimized and a slim-type LCD may be provided.

(Abstract). Thus, Moon teaches away from a light supplying unit having independent light sources corresponding to red light, green light and blue light, respectively, as recited in independent claim 1. Moreover, Moon teaches away from the conventional color-filterless LCD since it has to turn on the three primary color independent light sources during a short period, and the number of light sources as well as a size of the light source driver is increased. (Column 2, line 65- column 3, line 2).

Further, with respect to the sequentially turning on the three primary colors, Moon merely discloses that when any one of the three color light sources 12R, 12G, and 12B has been turned on, other color light sources are turned off or have a minimum brightness. When such sequential turned-on times are controlled to have a very short time interval, an observer does not sense a turning on and off of the displayed image, but views a full color image. (Col. 2, lines 48-54). As discussed above, Jang does not disclose independent light sources corresponding to red, green and blue colors.

Thus, neither Moon nor Jang, either alone or in combination, teach or suggest a light supplying unit having independent light sources corresponding to red light, green light and blue light, respectively, the independent light sources supplying the red light during a time corresponding to a first one-third of a frame, the green light during a second one-third of the frame and the blue light during a third one-third of the frame, as recited in amended independent claim 1.

Thus, Applicants submit that neither Moon nor Jang, either alone or in combination, render obvious the subject matter of amended claim 1. Claims 2-10 and 16 depend from amended claim 1, and thus include the allowable elements of amended

claim 1. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for amended independent claim 1.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's withdrawal of the rejection of claims 1-3, 7, 8 and 10, and their subsequent allowance is respectfully requested.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Fukuzawa in view of Jang and further in view of Miyamae et al. (U.S. Patent Publication No. 2002/0093743, hereinafter "Miyamae"). The Examiner states that Fukuzawa and Jang disclose all of the elements of the abovementioned claim except for the red, green and blue light supplying units being alternately disposed, which is allegedly disclosed in FIG. 1 of Miyamae.

First it is respectfully submitted that claim 6 depends from claim 1, which is submitted as being allowable for defining over Fukuzawa in view of Jang as discussed above. Furthermore, it is respectfully submitted that use of disposing the red, green and blue light supplying units alternately allegedly disclosed in Miyamae, or any other disclosure of Miyamae, does not cure the deficiencies noted above with respect to Fukuzawa and Jang.

Accordingly, it is respectfully requested that the rejection to claim 6 under §103 be withdrawn and allow the same to issue.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Moon in view of Jang and further in view of Miyamae et al. (U.S. Patent Publication No. 2002/0093743, hereinafter "Miyamae"). The Examiner states that Moon and Jang disclose all of the elements of the abovementioned claim except for the red, green and blue light supplying units being alternately disposed, which is allegedly disclosed in FIG. 1 of Miyamae.

First it is respectfully submitted that claim 6 depends from claim 1, which is submitted as being allowable for defining over Moon in view of Jang as discussed above. Furthermore, it is respectfully submitted that use of disposing the red, green and blue

light supplying units alternately allegedly disclosed in Miyamae, or any other disclosure of Miyamae, does not cure the deficiencies noted above with respect to Moon and Jang.

Accordingly, it is respectfully requested that the rejection to claim 6 under §103 be withdrawn and allow the same to issue.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Fukuzawa in view of Jang and further in view of Tsuda et al. (U.S. Patent No. 7,106,400, hereinafter “Tsuda”). The Examiner states that Fukuzawa and Jang disclose all of the elements of the abovementioned claim except for the pixels comprising a transparent electrode and a reflective electrode having a contact hole through which the transparent electrode is exposed, which is allegedly disclosed in FIGS. 15 and 16 of Tsuda.

First it is respectfully submitted that claim 6 depends from claim 1, which is submitted as being allowable for defining over Fukuzawa in view of Jang as discussed above. Furthermore, it is respectfully submitted that use of pixels comprising a transparent electrode and a reflective electrode having a contact hole through which the transparent electrode is exposed allegedly disclosed in Tsuda, or any other disclosure of Tsuda, does not cure the deficiencies noted above with respect to Fukuzawa and Jang.

Accordingly, it is respectfully requested that the rejection to claim 9 under §103 be withdrawn and allow the same to issue.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Fukuzawa in view of Moon and further in view of Tsuda et al. (U.S. Patent No. 7,106,400, hereinafter “Tsuda”). The Examiner states that Moon and Jang disclose all of the elements of the abovementioned claim except for the pixels comprising a transparent electrode and a reflective electrode having a contact hole through which the transparent electrode is exposed, which is allegedly disclosed in FIGS. 15 and 16 of Tsuda.

First it is respectfully submitted that claim 6 depends from claim 1, which is submitted as being allowable for defining over Moon in view of Jang as discussed above. Furthermore, it is respectfully submitted that use of pixels comprising a transparent electrode and a reflective electrode having a contact hole through which the transparent

Application No.: 10/552,088
Amendment dated: December 29, 2008
Reply to Office Action dated: October 8, 2008

electrode is exposed allegedly disclosed in Tsuda, or any other disclosure of Tsuda, does not cure the deficiencies noted above with respect to Moon and Jang.

Accordingly, it is respectfully requested that the rejection to claim 9 under §103 be withdrawn and allow the same to issue.

Conclusion

In light of the above remarks, the present application including claims 1-10 and 16 are believed to be in condition for allowance.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejections. If there are any charges due with respect to this response, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

By: /James J. Merrick/
James J. Merrick
Registration No. 43,801
Cantor Colburn LLP
20 Church Street, 22nd Floor
Hartford, CT 06103-3207
PTO Customer No. 23413
Telephone: (860) 286-2929
Fax: (860) 286-0115

Date: December 29, 2008